

### **ABSTRACT OF THE DISCLOSURE**

A virtual subnet controller includes a subnet mapping table and a control unit. When the source and destination stations belong to a public network and a private network, respectively, the NAT protocol is used for converting the IP address of the data packet. After receiving the ARP request from a source station, the virtual subnet controller will respond with an ARP response, enabling the data packet transmitted from the source station to the virtual subnet controller, and then redirect it to the destination station.